

What is Claimed:

1. A method for executing a file system statement in the context of a transaction, the file system statement including a call to open an item, one of a call to read from the item and a call to write to the item, and a call to close the item, the method comprising:

associating the file system statement with the transaction; and

starting the transaction by acquiring one of a read lock and a write lock on a data table row corresponding to the item.

2. The method of claim 1, comprising starting the transaction by acquiring one of a read lock and a write lock on a data table row that includes a user defined type corresponding to the item

3. The method of claim 1, further comprising associating a second statement with the transaction.

4. The method of claim 3, comprising associating the second statement with the transaction, the second statement being another file system statement.

5. The method of claim 3, comprising associating the second statement with the transaction, the second statement being a transactional query language statement.

6. The method of claim 1, wherein starting the transaction comprises:
determining whether starting the transaction will result in a conflict;
if so, then resolving the conflict according to a conflict resolution scheme; and
if not, then starting the transaction.

7. The method of claim 1, wherein acquiring the read lock on the row comprises acquiring a read committed view of the row.

8. The method of claim 1, wherein acquiring the write lock on the row comprises acquiring a write lock that will prevent another transaction from accessing the row while the transaction is being processed.
9. The method of claim 1, wherein acquiring the write lock on the row comprises acquiring a write lock that will prevent a non-transacted file system statement from accessing the row while the transaction is being processed.
10. The method of claim 1, wherein acquiring the write lock on the row comprises acquiring a write lock that will prevent another statement within the transaction from writing to the row.
11. The method of claim 1, wherein acquiring the write lock on the row comprises acquiring a write lock that will enable another statement within the transaction to read from the row.
12. The method of claim 1, comprising starting the transaction by acquiring one of a read lock and a write lock on a filestream field of the row.
13. A computer readable medium having computer-executable instructions for performing the steps recited in claim 1.
14. A method for locking and isolation of a file system statement including a call to open an item, a call to read from the item, and a call to close the item, the method comprising:
 - determining if read access is available for a row of a data table corresponding to the item;
 - if not, then failing the open; and
 - if so, then acquiring a read lock on the row.

15. The method of claim 14, comprising determining if read access is available for a row of a data table that includes a user defined type corresponding to the item.
16. The method of claim 14, wherein acquiring the read lock on the row comprises acquiring a read committed view of the row.
17. The method of claim 14, comprising acquiring a read lock on a filestream field of the row.
18. A computer readable medium having computer-executable instructions for performing the steps recited in claim 14.
19. A method for locking and isolation of a file system statement including a call to open an item, a call to write to the item, and a call to close the item, the method comprising:
 - determining if write access is available for a row of a data table corresponding to the item;
 - if not, then failing the open; and
 - if so, then acquiring a write lock on the row.
20. The method of claim 19, comprising determining if write access is available for a row of a data table that includes a user defined type corresponding to the item.
21. The method of claim 19, wherein acquiring the write lock on the row comprises acquiring a write lock that will prevent another statement from accessing the row while the statement is being processed.
22. The method of claim 19, comprising starting the transaction by acquiring a write lock on a filestream field of the row.

23. A computer readable medium having computer-executable instructions for performing the steps recited in claim 19.

24. A system for executing a file system statement in the context of a transaction, the file system statement including a call to open an item, one of a call to read from the item and a call to write to the item, and a call to close the item, the system comprising:

a relational data engine comprising a data table having a row corresponding to the item;

a storage platform built on the relational data engine, the storage platform comprising means for associating the file system statement with the transaction, and means for starting the transaction by acquiring one of a read lock and a write lock on the row.

25. The system of claim 24, wherein the row corresponding to the item includes a user defined type corresponding to the item.

26. The system of claim 24, wherein the storage platform further comprises means for associating a second statement with the transaction.

27. The system of claim 26, wherein the second statement is another file system statement.

28. The system of claim 26, wherein the second statement is a transactional query language statement.

29. The system of claim 24, wherein the means for starting the transaction comprises means for performing the following steps:

determining whether starting the transaction will result in a conflict;

if so, then resolving the conflict according to a conflict resolution scheme; and

if not, then starting the transaction.

- 30. The system of claim 24, wherein the read lock provides a read committed view of the row.
- 31. The system of claim 24, wherein the write lock prevents another transaction from accessing the row while the transaction is being processed.
- 32. The system of claim 24, wherein the write lock prevents a non-transacted file system statement from accessing the row while the transaction is being processed.
- 33. The system of claim 24, wherein the write lock prevents another statement within the transaction from writing to the row.
- 34. The system of claim 24, wherein the write lock enables another statement within the transaction to read from the row.
- 35. The system of claim 24, wherein the row comprises a filestream field.